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December 5, 2011

VIA ELECTRONIC DELIVERY

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Room TWA325
Washington, DC 20554

Re: Notice of *Ex Parte* Presentations
WT Docket Nos. 06-150, 11-18; RM-11592

Dear Ms. Dortch:

On December 1, 2011, Vulcan Wireless LLC ("Vulcan") representatives Scott Wills, Paul Nagle, Paul Kolodzy, and Michele Farquhar met with Renata Hesse, Senior Counsel to the Chairman for Transactions; and Tom Peters, Paul D'Ari, Kathy Harris, Aleks Yankelevich, and Saurbh Chhabra from the Wireless Telecommunications Bureau ("WTB") to discuss the critical need for a condition on the AT&T-Qualcomm acquisition that would help restore a consolidated Lower 700 MHz band class. Dave Saylor, representing Vulcan; Ben Moncrief, Public Policy Manager for C Spire Wireless; and Nicole McGinnis from WTB also joined the meeting by telephone.

The group discussed the results of a "real world" study, funded by a consortium of several Lower 700 MHz A Block licensees,[1] to test the underlying assumptions originally put forth regarding the need for a separate Band Class 17 in the Lower 700 MHz band. The study also set out to test a series of unsubstantiated claims put forth by AT&T and Qualcomm regarding the technical feasibility and cost impact of possible conditions on the pending AT&T-Qualcomm acquisition. The study included a combination of in-market field environmental measurements in Atlanta along with lab bench testing of AT&T 4G LTE devices.

The study found that the anticipated interference circumstances were unfounded and the underlying assumptions put forth for a separate Lower 700 MHz Band Class 17 were overstated. The real world data confirms that the use of Band Class 12 would not lead to degraded service for Lower 700 MHz B & C Block users. The data demonstrates that different operators' systems in the Lower B and C Blocks actually pose a threat of interference to each other that is greater than any threat that would be introduced from a unified Lower 700 MHz band class that includes the A Block. Moreover, the AT&T devices tested proved that the device designs successfully handled these

[1] The consortium members include: Vulcan Wireless, King Street Wireless, Cavalier Wireless, Continuum 700, Cox Wireless, C Spire and MetroPCS.

differences in signal levels. Thus, neither high power E Block transmissions nor Channel 51 transmissions present an interference threat. Specifically, AT&T LTE devices currently receive and successfully manage greater disparities in signal levels from within their B and C Blocks than need to be accounted for by incorporating the A Block. In addition, concerns and claims made about reverse intermodulation distortion interference were shown to be unfounded, as the commercially deployed AT&T devices did not experience such interference. Finally, vague, alarmist, and unsubstantiated concerns and claims about the potential increase in cost and/or size of devices are inaccurate and misstated, as the current bill of materials costs will remain virtually unchanged. Therefore, the parties urged the Commission to impose a condition on the AT&T-Qualcomm acquisition that would help restore the original, unified Lower 700 MHz band plan, which would reconsolidate the fragmented Lower 700 MHz A, B, and C Blocks.

The attached materials were provided by Vulcan to Bureau staff during the discussion. Ms. Farquhar also met with Louis Peraertz, Legal Advisor to Commissioner Clyburn, on the same day and discussed the same issues described above and in the attached presentation.

Messrs. Wills, Nagle, and Kolodzy, along with Ms. Farquhar, also met with Tom Peters, John Leibovitz, Jim Schlichting, Paul Murray, Peter Trachtenberg, and Lloyd Coward from WTB on the same day. The Vulcan representatives discussed the circumstances that are dramatically hindering A Block broadband deployment, as described in the attached presentation. Specifically, they noted that AT&T's dominance in the Lower 700 MHz band and its influence over vendors has significantly impacted the availability of handsets to Lower 700 MHz band licensees and is a major impediment to deployment in the band. In addition, Vulcan noted that the FCC could clarify its rules regarding the level of protection that 700 MHz A Block licensees must afford to Channel 51 broadcasters.

Pursuant to Section 1.1206(b) of the Commission's rules, I am filing this notice electronically in the above-referenced docket. Please contact me directly with any questions.

Respectfully submitted,

/s/ Michele C. Farquhar

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Jim Schlichting
Paul Murray
Peter Trachtenberg
Lloyd Coward

Why it is Imperative for the FCC to Help Restore a Consolidated Lower 700 MHz Band Class to Prevent Harm From the AT&T-Qualcomm Transaction

Vulcan Wireless

December 1, 2011

The AT&T-Qualcomm Transaction Gives AT&T Far Too Much Influence Over Band Class 12 Licensees

- AT&T has demonstrated misuse of the standards process and failure to disclose critical facts in the creation of Band Plan 17
- AT&T unfairly used its influence and monopsony power over the Lower 700 MHz vendor community to "carve up" the existing unified band plan, orphaning A Block licensees
- Owning D Block nationwide, which neighbors Band Class 12, gives too much power and influence to AT&T over Lower 700 MHz licensees
  - % ATT POPs Controlled Before: 35%
  - % ATT POPs Controlled After: 52%*

* does not include other pending AT&T 700 MHz acquisitions

AT&T's Planned Acquisition of the D & E Blocks Has Already Negatively Impacted Band Class 12 Licensees

- As recent as two weeks ago at 3GPP, AT&T spoke in favor of a proposal regarding base station operations that would require Band 12 licensees to set aside 1 MHz of their spectrum as guard band to support AT&T's D Block operations, rather than requiring AT&T to solely provide their own guard band

- AT&T's declaration to the FCC on January 12, 2011 stated: "AT&T's deployment of D & E block base station should have little effect on future deployments of A, B, and C-Block base stations by AT&T or any other licensee."

The AT&T-Qualcomm License Transfer Would Exacerbate the Interference and Deployment Problems Experienced by A Block Licensees in Band Class 12

- The AT&T-Qualcomm acquisition, if approved, would magnify AT&T's market power in the Lower 700 MHz band and increase its ability to exert undue influence within the 3GPP process to the detriment of other Lower 700 MHz band licensees.
- The acquisition would specifically threaten interoperability by increasing the potential for significant interference across the Lower 700 MHz band.
  - For example, AT&T has argued that adjacent and other transmissions in or around 700 MHz caused interference concerns and required the creation of Band Class 17. But these concerns apparently do not apply to AT&T itself, which is now suggesting that it does not and will not cause interference to others, including by using the adjacent D & E Blocks.
  - **Nonetheless, there has already been a request at 3GPP to reduce the usable bandwidth for Band Class 12 licensees. This AT&T influenced request comes even before their acquisition is completed**
  - **AT&T's public submissions to the FCC never revealed that its use of the D Block spectrum would require other licensees to reduce their use of spectrum to create guard band for AT&T's purposes**
  - Without a requirement to help restore a unified Lower 700 MHz band class, AT&T at any time would be able to introduce new system requirements that cause interference to, preclude interoperability with, and introduce additional costs for, other Lower 700 MHz band licensees.
- Moreover, if the acquisition is approved, AT&T will have no incentive to cooperate with Lower Band licensees on *any* issues that may arise in the Lower 700 MHz Band, as it will function as a separate ecosystem. This will further threaten interoperability.
- Without interoperability, there will be no roaming across the Lower 700 MHz band and there will be a greater risk of exclusive handset arrangements, both of which will hinder competition and create islands of incompatibility – especially in the Lower 700 MHz A Block.
- The FCC should not approve the proposed license transfer without a single transaction-specific condition to reconsolidate the Lower 700 MHz band classes.

Recommended FCC Action: The FCC should adopt only a single condition on the AT&T-Qualcomm transaction that will help reconsolidate and unify the paired spectrum in the Lower 700 MHz band while allowing AT&T to proceed with its current deployment plans

- *After the transaction closes, any mobile device offered by AT&T that operates on paired Lower 700 MHz band spectrum must operate on all Lower 700 MHz band paired spectrum. This condition only applies to new devices, beginning as early as 6 months after the transaction closes, and should be fully implemented two years following the close of the transaction*

FCC Must Take Action Now

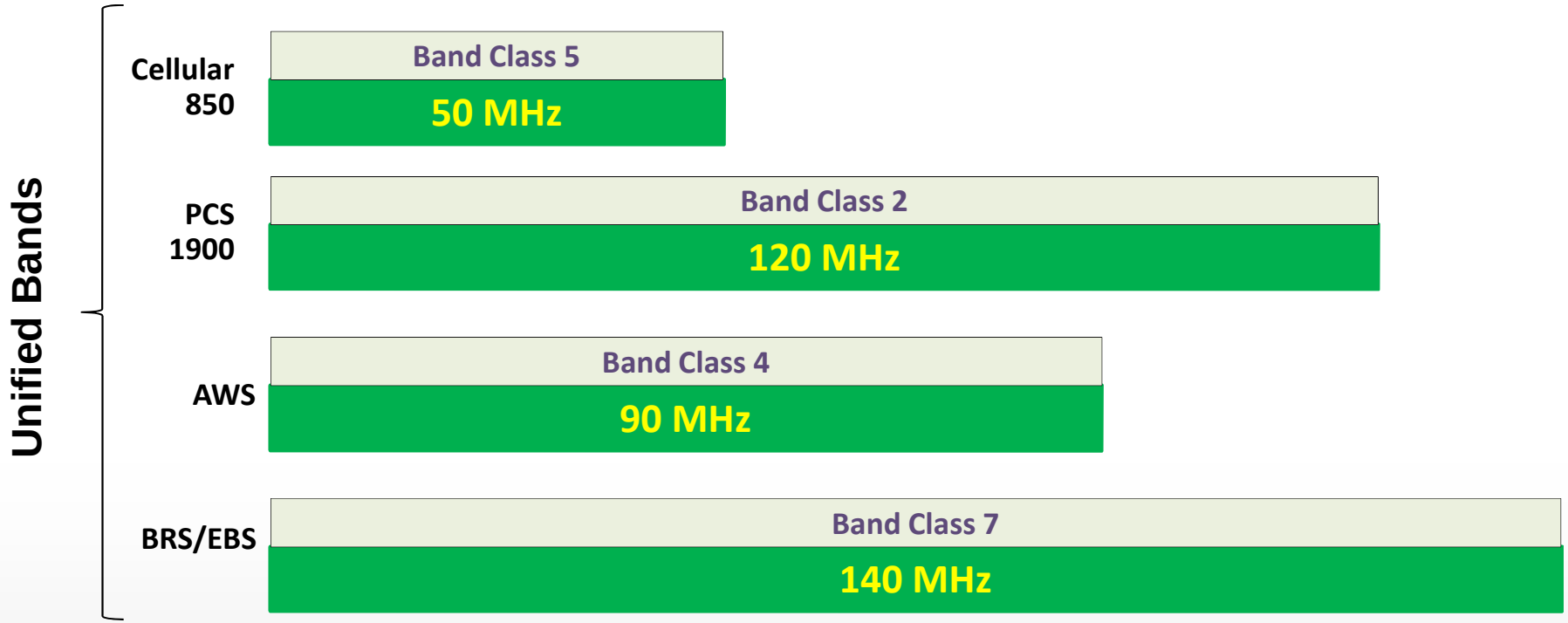
- AT&T's dominance in the Lower 700 MHz band and its influence over vendors has significantly impacted the availability of handsets to Lower 700 MHz band licensees and is a major impediment to deployment in the band
- The FCC can, and must, take action immediately to solve this problem
  - The transaction creates new interference obstacles for lower A Block licensees, threatens their ability to achieve interoperability, and could enable AT&T to circumvent the FCC's roaming decisions
- There are no technical- or cost-based impediments to imposing a condition on this transaction, as demonstrated by a recent technical study
- A single condition to help restore a consolidated Lower 700 MHz band class is most appropriate at this time to quickly restore a competitive environment and reduce the threat of impediments to A Block deployment at the lowest possible cost

The FCC Needs to Require a Simple Condition to Curtail Further Manipulation and Compensate for the Absence of the Traditional Balance of Market Forces in the Band Plan Process

- For standards bodies to work, multiple wireless carriers need to be present to allow for the creation of interoperable band classes and provide the necessary economies of scale and access to technology
- Neither standards bodies nor markets work when there is only one wireless carrier in the market influencing the band plan process
- The 3GPP process is predicated on market force collaboration, but the unanticipated problem is that only one wireless carrier dominated the Lower 700 MHz band plan process
- Predatory tactics were allowed to influence the band class creation in the standards body process leading to unprecedented and unanticipated marketplace manipulation
- AT&T's dominance of the band plan process thwarts efficiencies that benefit consumers, vendors, and licensees
- A reconsolidated Lower 700 MHz band class will compensate for AT&T's dominance and control over the Lower 700 MHz band

Vulcan Wireless

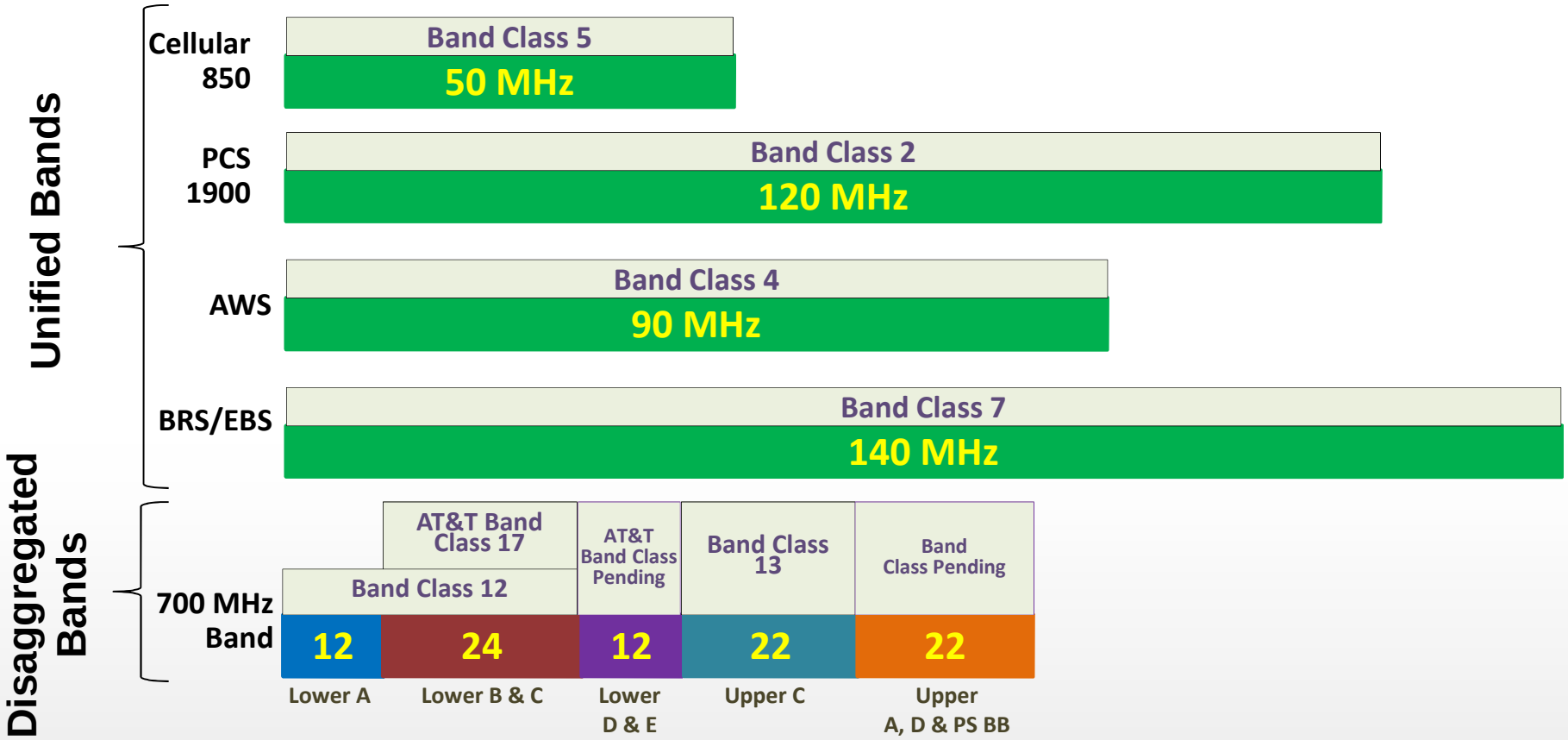
Wireless Frequencies & 3GPP Band Classes



- **Every historical mobile wireless band class in the US has a unified band plan.** Traditionally, vendors came together in 3GPP to establish a single band class across individual spectrum allocations as a common technical foundation for all service providers within the band, driving economies of scale and interoperability.
- **Unified Band Plans have contributed significantly to ecosystem development, industry growth and consumer choice.** Without a common band plan, consumers can never switch carriers with a phone and data roaming is not possible.

Vulcan Wireless

Wireless Frequencies & 3GPP Band Classes



➢ **With 700 MHz, the 3GPP process has been unduly influenced to force disaggregation**

The unique use of 700 MHz frequencies exclusively in the US has given AT&T (a dominant 700 MHz spectrum holders) excessive influence, as there are no large international carriers using the same spectrum. This has led to unprecedented band class fragmentation and delays, slower ecosystem development and less consumer choice.

Vulcan Wireless

Activity Timeline for 700 MHz Band Class Pre- and Post- Auction 73

Dec 2007 (prior to auction) Only Band Class 12 is before 3GPP. Heading into Auction 73, there was no indication that the Lower 700 MHz band class would become fragmented. Prior to the auction, the focus had been on Band Class 12.

March 2008 Auction closes

April 2008 Motorola submits paper to 3GPP proposing Band Class 17 – eliminates a unified Lower 700 MHz band class and covers B and C Blocks predominantly owned by AT&T

June 2008 **Ericsson questions reason for fracturing the band into separate band classes; Ericsson removes objections after AT&T supports Band Class 17 "which goes against economies of scale and may lead to market fragmentation"**

September 2008 3GPP ratifies Band Class 17 – Ericsson objections silenced

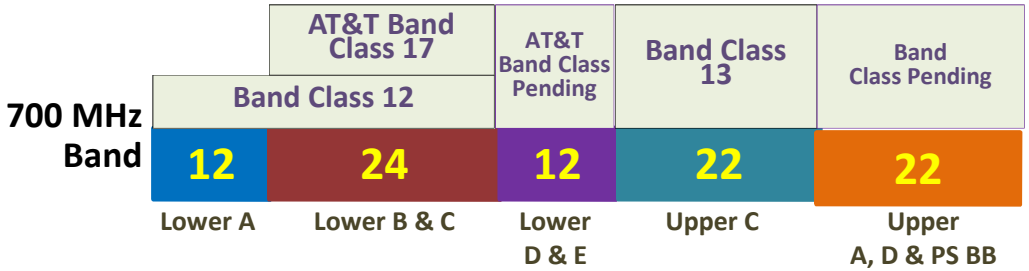
December 2010 3GPP ratifies Band Class 12 with 1 MHz guard band - It has taken a long time for the marginalized A Block licensees to get vendors to develop devices for its stand-alone band class. By the end of this year, both VZW and AT&T will have deployed 700 MHz spectrum to their customers, while the A Block licensees are still waiting for a workable prototype.

November 2011 AT&T requests that an additional 1 MHz of guard band be provided by Band Class 12 to protect spectrum being acquired from Qualcomm

700 MHz Band Class Manipulation Benefited AT&T but Derailed and Corrupted Lower 700 MHz Interoperability Efforts, Created Global Backlash, and Thwarted A Block 4G Deployments

ITU & 3GPP Mission: "Adopting international standards to ensure seamless global communications and interoperability for next-generation networks (NGN)" ***– this was not done***

- Normally major global wireless carriers such as Orange, Vodafone, China Mobile , among others, are involved at the outset in standard-setting for key spectrum bands – ***this was not done***
- Carriers always make the necessary technical compromises to ensure ecosystem interoperability – ***this was not done***
- Since the US led in awarding 700 MHz licenses, AT&T, with its captive vendor community found itself in an unusual position to drive standards only for the AT&T-owned spectrum bands, often without even providing traditional and necessary technical data to support asserted needs – ***this needs to be corrected***
- Global analysts and global wireless carriers alike cite the lack of 700 MHz interoperability standards as a key issue and new non-US global standards are being developed as a result [*e.g.*, Asia-Pacific Telecommunity (namely, the APT band plan)] ***– this needs to be corrected***



The Problem: The unique nature of the 700 MHz band (with no matching international allocation) and market consolidation have led to a skewed 3GPP process, which has resulted in:

1: Fractured and disaggregated spectrum
2: A captive vendor community
3: Isolated/orphaned spectrum holders
4: Harm to competition and consumers

After acquiring the Qualcomm spectrum, AT&T will be the exclusive owner of the D Block spectrum that neighbors Band Class 12. This will give AT&T significant influence and control over Band Class 12 licensees.

Pro-Consumer and Pro-Competition FCC Policies Have Been Circumvented and the Recent FCC Roaming Order Rendered Useless

- The April 2011 FCC Workshop on Interoperability revealed that primarily business reasons, more so than technical reasons, drove 700 MHz band plan fragmentation
- The acquisition of D & E Block licenses by AT&T removes a key part of the technical reasons used in 3GPP to originally rationalize the need to develop its own separate Band Class 17
- If AT&T is allowed to hide behind the claim that its mobile devices do not interoperate with other 700 MHz spectrum, then FCC policy goals will continue to be circumvented and the roaming order will be eviscerated
- Without FCC action now, before the network is built and deployed, the opportunity to correct the situation may become forever lost

The Solution

Recommended FCC Action: The FCC should adopt only a single condition on the AT&T-Qualcomm transaction that will help reconsolidate and unify the paired spectrum in the Lower 700 MHz band while allowing AT&T to proceed with its current deployment plans

- AT&T's dominance in the Lower 700 MHz band and its influence over vendors has significantly impacted the availability of handsets to Lower 700 MHz band licensees and is a major impediment to deployment in the band
- The FCC can, and must, take action immediately to solve this problem
  - The transaction creates new interference obstacles for lower A Block licensees, threatens their ability to achieve interoperability, and could enable AT&T to circumvent the FCC's roaming decisions
- There are no technical- or cost-based impediments to imposing a condition on this transaction, as demonstrated by a recent technical study
- A condition to reconsolidate the Lower 700 MHz band classes is most appropriate at this time to quickly restore a competitive environment and reduce the threat of impediments to A Block deployment at the lowest possible cost

After the transaction closes, any mobile device offered by AT&T that operates on paired Lower 700 MHz band spectrum must operate on all Lower 700 MHz band paired spectrum. This condition only applies to new devices, beginning as early as 6 months after the transaction closes and fully implemented two years following the close of the transaction

FCC Action Will Help to Accelerate Other US 4G Deployments and Address Global Backlash

- ***Mike Byrne, Chair of the European Commission's Radio Spectrum Policy Group and a Commissioner at the Commission for Communications Regulation (ComReg) said***: "Cooperation between Europe and the Americas is increasingly important to ensure that spectrum is being used wisely and countries are able to recover from the economic slump. An inward-looking approach results in increased fragmentation and higher prices for products and services that have to be tailored to each region."

- ***Sebastian Cabello, Director of GSMA's regional office in Latin America, said***: "GSMA members want harmonized frequencies, which drive scale and adoption of wireless services. Mr. Cabello noted that one drawback of the U.S. plan is the difficulty in device interoperability between sub-bands."

Benefits of the Proposed Condition

Not onerous

- Allows AT&T to transition to this solution over time
- No stranded investment because no impact on current handset sales
- New phones are constantly developed and deployed

A solution that will evolve as mobile wireless services evolve

- Does not force AT&T into a single configuration, but imposes a service condition
- Allows AT&T to innovate and develop new handsets just as in other mobile bands (which all have a uniform band class)
- Ensures that Band Class 12 licensees can get devices, and that roaming is technically possible across the Lower 700 MHz band

Interference is not an impediment to interoperability

- The FCC workshop demonstrated that there is no technical barrier to interoperability – only business decisions prevent it
- Post-transaction there are no significant technical differences between Band Class 12 (Lower A, B, & C Blocks) vs. Band Class 17 (Lower B & C)
- Band Class 12 could be substituted for Band Class 17 without impacting the number of bands on a chip

Extensive Study Demonstrates that There Are No Technical Impediments to Lower 700 MHz Interoperability

- A consortium of several 700 MHz A Block license holders* funded a "real world" study by conducting a variety of tests and collaborative engineering analyses/evaluations regarding the underlying assumptions originally put forth regarding the need for a separate Band Class 17 in the Lower 700 MHz band that has precluded interoperability
- The study included a combination of in-market field environmental measurements along with device lab bench testing of AT&T4G devices
- The study included field measurements in Atlanta, a market with a high power E Block system (50 kW), AT&T Lower B and C Block LTE system, Verizon Upper C Block LTE system, a high power Channel 51 broadcaster and an LPTV broadcaster. Also included in the test were AT&T LTE 4G devices.

*The consortium members include: Vulcan Wireless, King Street Wireless, Cavalier Wireless, Continuum 700, Cox Wireless, C Spire and MetroPCS.

700 MHz Study Objectives

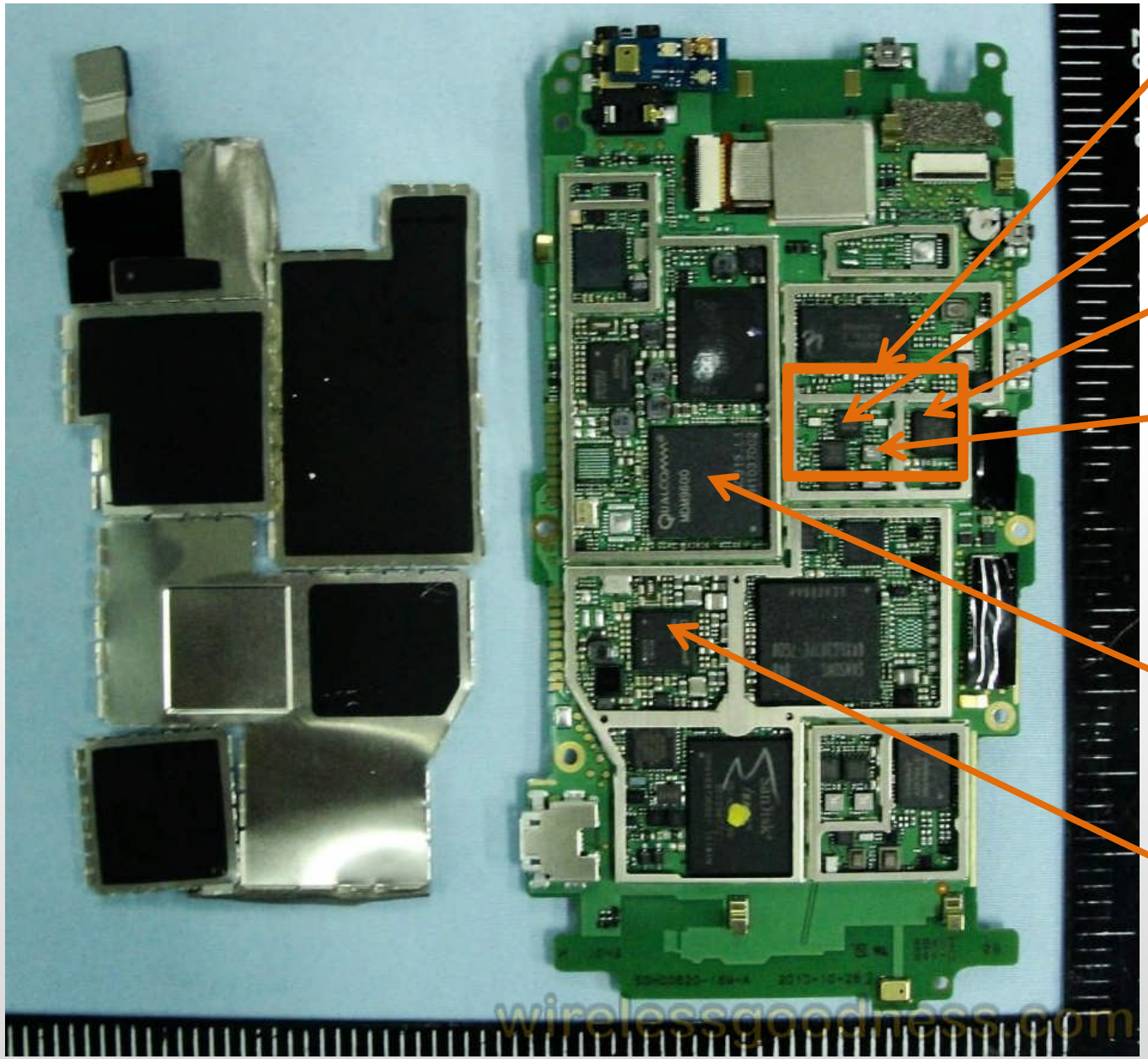
- Provide “Real World” hard engineering data that specifically addresses and quantifies previously submitted general claims that has led to confusion regarding the impact of interference in the lower 700 MHz band
- Quantify answers to questions: If AT&T were to use Band Class 12 versus Band Class 17, would AT&T experience any:
  - Increased levels of interference?
  - Degraded service?
  - Increases in handset costs?
  - Are the fundamental assumptions used to support AT&T’s adoption/creation of a separate Band Class 17 technically necessary or marketplace motivated?
- How does the AT&T acquisition of D and E Block licenses affect the need for Band Class 17 ?
  - Has the main rationale originally used to rationalize the creation of Band Class 17 been technically eliminated with this acquisition?
  - Could the acquisition of these licenses impact interoperability among other license holders in the lower 700 MHz band?

Summary of 700 MHz Study Findings

- Band Class 17 B and C Blocks already suffer greater interference threats from each other than what would be introduced from a unified Lower 700 MHz Band Class that includes the Lower A Block. Neither high power E Block transmissions nor Channel 51 transmissions create an increased interference threat; in fact, the interference threat is lower.
  - AT&T LTE devices currently receive and successfully manage greater levels of interference from within the B and C Blocks than need to be accounted for by unifying the Lower 700 MHz paired bands
  - Concerns and claims made about reverse intermodulation distortion interference are unfounded

- Unsubstantiated concerns and claims about the potential increase in cost or size of devices are inaccurate and misstated as testing shows the BOM costs will remain virtually unchanged.

Device Component Bill of Materials for HTC Thunderbolt



PA and

3X 3G PA (700, 800, 1900)
~ 3 X $0.50

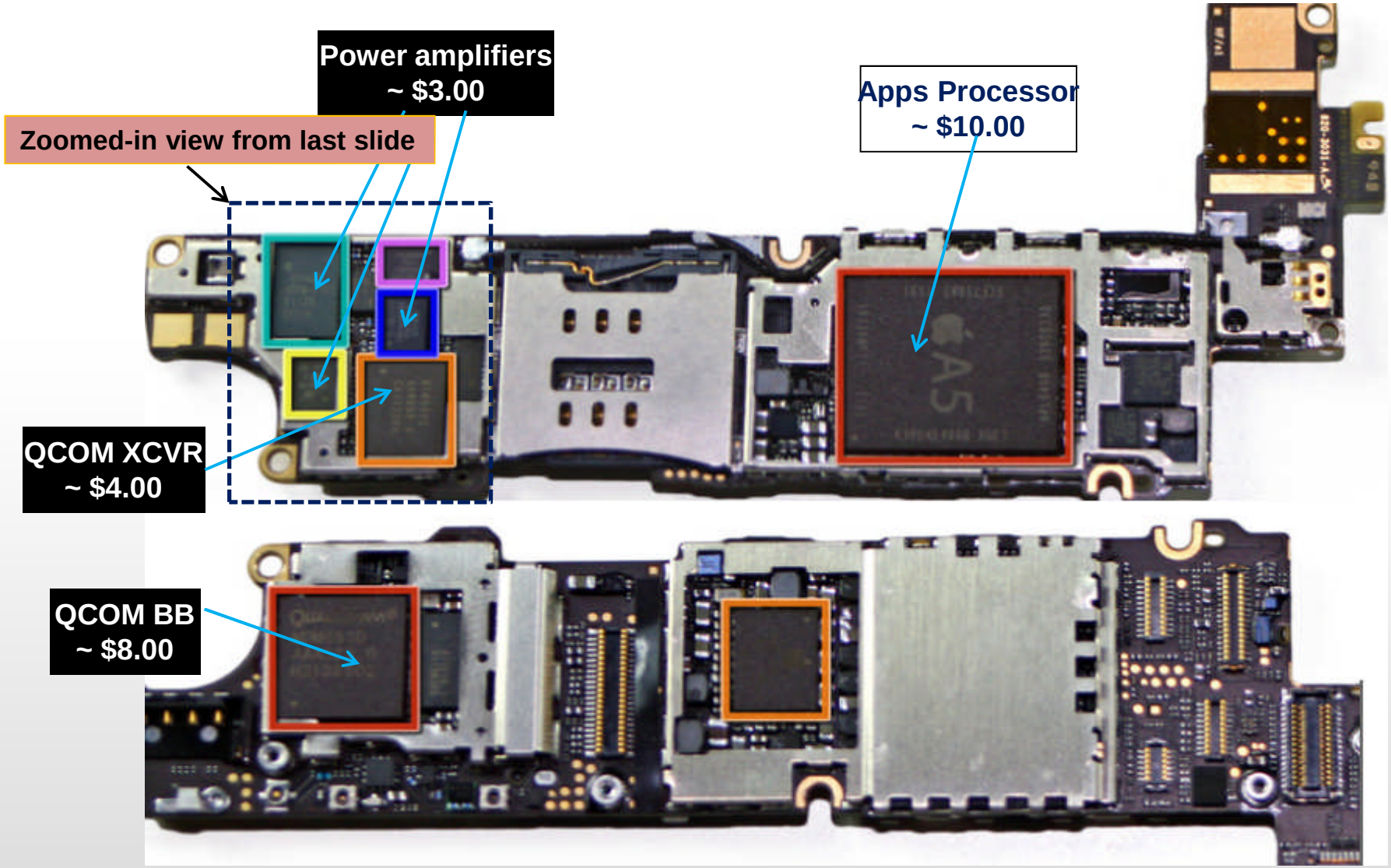
Quad-band GSM
PAM

3X Duplexer
~ 3 X $0.25

QCOM MDM9600
1st 28 nm BB along
with XCVR
~ $30.00

QCOM
PMIC
~ $3.00

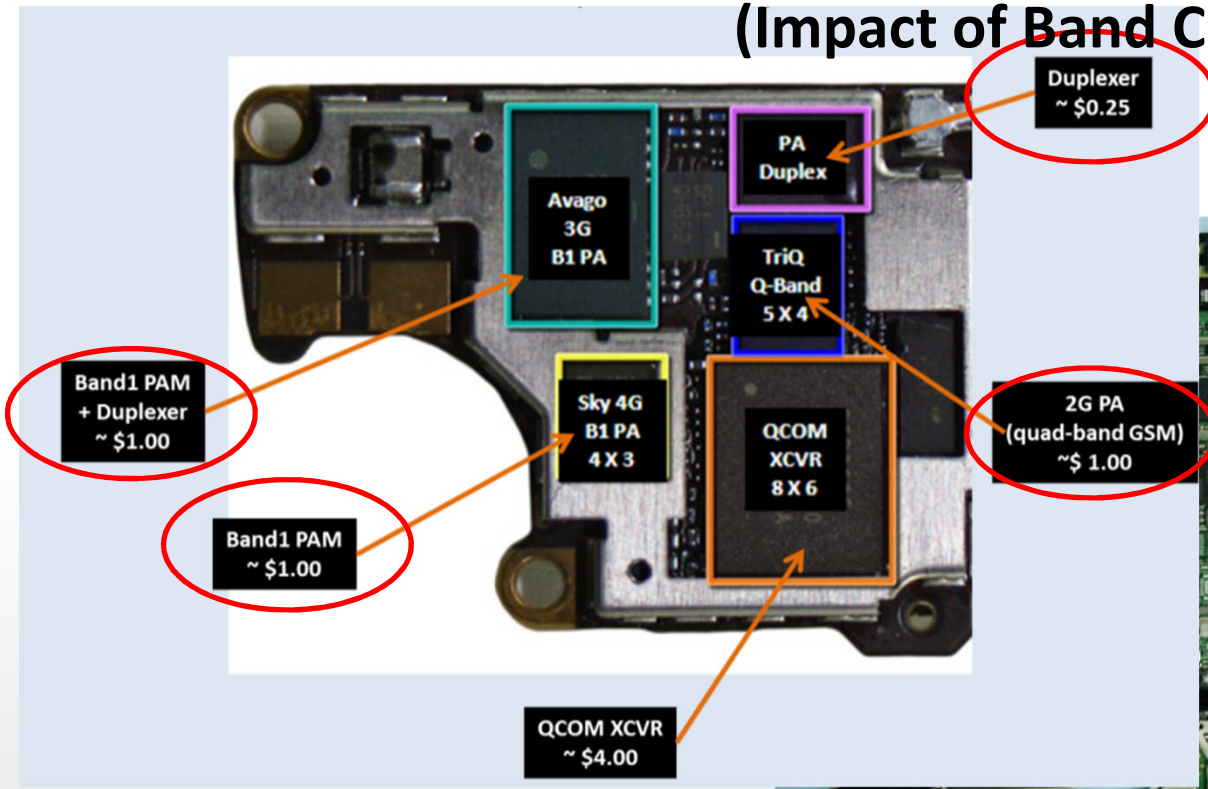
Device Component Bill of Materials for iPhone 4S



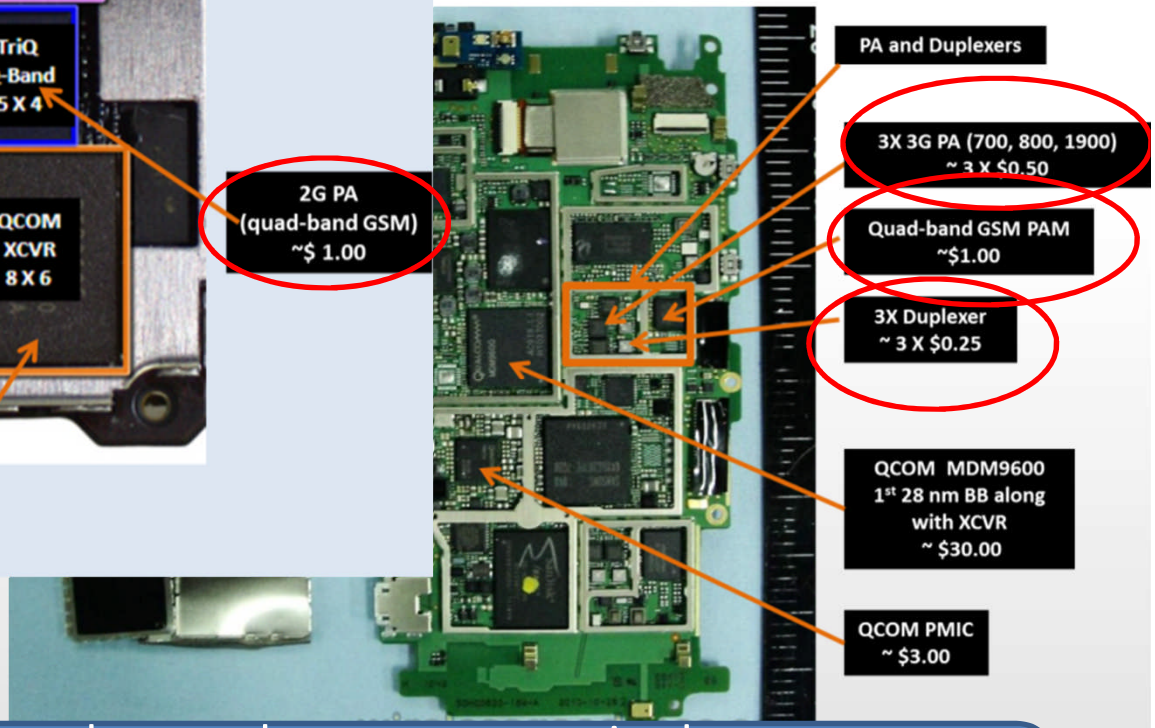
No Cost Increases Anticipated in Either Apple or Android Bill of Materials

(Impact of Band Class 12)

iPhone 4S



HTC Thunderbolt



Device Performance indicates that no changes are required except to simply broaden the duplexer to cover Lower A, B and C Blocks. However, if new filter (and potentially new Power Amplifier Module) components are required, similar BOMs component prices are all < $1 and, in quantity, have no cost impact.